

**BOARD OF PILOT COMMISSIONERS
FOR THE BAYS OF SAN FRANCISCO, SAN PABLO, AND SUISUN**

**PILOT FITNESS COMMITTEE RECOMMENDATION
FOR ADOPTION OF FATIGUE REGULATIONS**

February 24, 2022

The Pilot Fitness Committee submits for Board review proposed fatigue regulations, which are attached. If the draft regulations are acceptable to the Board, staff will commence the rulemaking process by filing the proposed regulations with the Office of Administrative Law. The Board has earlier approved the Committee's 22 policy recommendations, which the Committee made after its review of the San Francisco Bar Pilot Fatigue Study, which was conducted by the San Jose State University Research Foundation (SJSURF) in collaboration with NASA's Ames Fatigue Countermeasures Laboratory. Both the Fatigue Study and the adoption of fatigue regulations are required by section 1196.5 of the Harbors and Navigation Code.

The study contains 19 recommendations. The Committee made three additional recommendations. The Committee's proposed responses to all 22 recommendations were approved by the Board. In considering draft regulations, the Committee has altered somewhat four of the policy recommendations that were approved by the Board. The affected recommendations are Recommendations 4, 14, 20, and 21.

Recommendation 4. This policy pertained to situations where a pilot has worked more than 18 night-time hours in any 72-hour period. The initial recommendation was that, if that 18-hour limit were exceeded, a pilot would not be assigned to a work period the following day that started prior to 0600. To give pilots two extra hours of sleep, 0600 was changed to 0800.

Recommendation 14. This policy required the Fatigue Risk Management System prepared by the Port Agent to include education of pilots, dispatchers, and pilot vessel crews with respect to an appropriate recovery period after awakening. The draft regulations retain this requirement for pilots by including the subject in the combination course required of pilots under section 215. The topic was also included in section 214, pertaining to trainee training. The requirement was dropped as to dispatchers and vessel crews because pilots direct others when they want to be awakened.

Recommendation 20. This policy required that trainees be educated concerning fatigue, but need not comply with the same work- and rest-period requirements applicable to pilots. Proposed section 220(*l*) has been added to section 220, Duties of Pilot Trainees. It requires that trainees familiarize themselves with the work-hour limitations and rest-period requirements applicable to pilots and use those limitations and requirements in scheduling training trips on vessels.

Recommendation 21. This policy required the Port Agent to consider various alternative means to mitigate pilot fatigue occasioned by long-distance travel to and from mandated training. One item for consideration was whether travel by air should allow for 180-degree horizontal seating. That item has been dropped.

DRAFT FATIGUE REGULATIONS

(February 24, 2022)

§ 202. Other Definitions.

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(m) “FRMS” means fatigue risk management system.

[subsequent definitions re-alphabetized]

§ 210. Incident Review Process.

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(c) The written report developed by the Incident Review Committee relating to the incident, misconduct or other matter shall include but need not be limited to:

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(12) An assessment of whether fatigue contributed to the incident.

§ 214. Pilot Trainee Training Program.

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(b) The training program prescribed herein shall include the following topics:

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(24) The causes and hazards of fatigue, the means of avoiding or alleviating fatigue, the responsibility of pilots and trainees to ensure that they are rested prior to an assignment, the need for a sufficient recovery period after awakening, and the duty of pilots and trainees to refuse an assignment if they are too fatigued to complete an assignment safely.

§ 215. Pilot Training.

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(b) The training program for each pilot shall consist of two parts:

* * *

(2) Attend a combination course at least five days in length completed at least once every five years covering at least the following topics:

* * *

(E) The causes and hazards of fatigue, the means of avoiding or alleviating fatigue, the responsibility of pilots to ensure that they are rested prior to an assignment, the need for a sufficient recovery period after awakening, and the duty of pilots to refuse an assignment if they are too fatigued to complete an assignment safely.

§ 218.1. Fatigue Risk Management.

(a) This section implements section 1196.5 of the Code, which requires the Board to evaluate factors that contribute to pilot fatigue and to adopt regulations that will prevent pilot fatigue and thereby ensure the safe operation of vessels.

(b) The Port Agent shall prepare and submit to the Board for review and approval a fatigue risk management system. The FRMS proposed by the Port Agent shall be developed to ensure that the operations of the San Francisco Bar Pilots support effective rest opportunities and fatigue mitigation measures. The FRMS shall include the specific restrictions on work hours and rest periods mandated by this section. The FRMS shall also include the additional elements specified in this section. Subject to Board approval, the content of these elements is committed in the first instance to the Port Agent. Requiring initial development of the FRMS by the Port Agent is based on the premise that the Port Agent is most familiar with the day-to-day operations of the pilots and is well situated to evaluate what fatigue-management measures will or won't work in the context of what the pilots do and how they do it.

(c) Pilots are limited to a maximum work period of 14 hours. A work period starts at the time a pilot would need to report to San Francisco Bar Pilots headquarters to begin an assignment and ends at the time a pilot, having completed the last of one or more assignments, would arrive back at SFBP headquarters. The Port Agent may include in the FRMS a maximum work period less than 14 hours, stating the rationale for the shorter work period. The Port Agent shall report monthly in writing to the Board instances of work periods in excess of 12 hours.

(d) Pilots are limited to a maximum night work period of 12 hours without a rest opportunity on the offshore station boat between assignments. A night work period is any work period that includes all or any portion of the hours between 0000 and 0600. The Port Agent may include in the FRMS a maximum night work period less than 12 hours, stating the rationale for the shorter night work period. The Port Agent shall report monthly in writing to the Board instances of night work periods in excess of 10 hours without a rest opportunity on the offshore station boat between assignments.

(e) Pilots are limited to a maximum of 18 night-time hours worked in any 72-hour period. A night-time hour is any whole or partial hour worked between 0000 and 0600. If a pilot has reached the 18-hour limit, the Port Agent shall not assign that pilot to work in any night work period that would include a night-time hour worked prior to 0800 of the calendar day next following the calendar day on which the 18-hour limit was reached. The Port Agent may include in the FRMS a limit lower than 18 hours of night-time hours worked in any 72-hour period, stating the rationale for the lower limit. The Port Agent shall report monthly in writing to the Board the number of assignments made in which a pilot was assigned to work in a night work period that included a night-time hour worked prior to 0800 of the calendar day next following the calendar day on which the 18-hour limit was reached.

(f) Pilots are limited to 15 consecutive days on-call. The Port Agent may include in the FRMS a protocol for providing pilots who are on-call for 14 or 15 consecutive days a rest break at or around the midpoint of the 14- or 15-day period, stating the rationale for the protocol.

(g) The minimum rest period for pilots between work periods is 10 hours. The Port Agent shall report monthly in writing to the Board the number and duration of rest periods of less than 12 hours.

(h) Concerning each of the requirements set forth in subsections (c) through (g), circumstances may arise upon or adjacent to waters under the Board's

jurisdiction that pose an immediate threat of harm to persons, property, vessels, or the marine environment. When, in the opinion of the Port Agent, there is reasonable cause to believe that the risk of harm to persons, property, vessels, or the marine environment exceeds the risks associated with (1) extending work periods, (2) making assignments exceeding the limits on night-time hours, (3) extending the number of consecutive days on call, or (4) authorizing exceptions to the minimum rest period, the Port Agent may depart from the limitations set forth in subsections (c) through (g). For each such departure, the Port Agent shall report monthly in writing to the Board the fact of the departure and the circumstances and reasons therefor.

(i) The Port Agent shall include the following elements in the FRMS:

(1) A plan regarding assignment of off-call pilots that minimizes disruption of their recovery rest periods.

(2) Minimum advance notice to the San Francisco Bar Pilots by those ordering pilot services, thereby increasing the predictability of pilot schedules.

(3) A plan to use various measures to increase the number of pilots available on the board at any given time.

(4) A plan to educate pilots on the importance of reporting fatigue and removing themselves from the roster when they are significantly fatigued

(5) Measures to mitigate pilot fatigue occasioned by long-distance travel to and from mandated training. The Port Agent shall consider:

(A) Delaying a pilot's return to the board following travel.

(B) A travel mode that would minimize the number of travel segments, minimize total travel time, and enhance rest opportunities.

(6) Any other elements that the Port Agent believes will further the objective of preventing pilot fatigue and thereby ensuring the safe operation of vessels.

(j) The Port Agent shall submit the FRMS to the Board for review and approval not later than 60 days after the effective date of this section. The Port Agent shall submit the FRMS to the Board for review and reapproval one year after the initial approval, every 24 months thereafter, and whenever the Port Agent makes substantive changes to the FRMS.

§ 220. Duties of Pilot Trainees.

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(l) A pilot trainee shall familiarize himself or herself with the work-hour limitations and rest-period requirements applicable to pilots and shall be guided by these limitations and requirements in scheduling training trips on vessels.